[illegible], [illegible], Dozent; [illegible], [illegible];
[illegible], [illegible], Dozent; [illegible], V. [illegible], Prof.

Lomonosov, V. [illegible].

Discussion of V. [illegible]. Lomonosov's article "Operational calculus and training in electrical engineering." Elektrichestvo No. 9, 1952.

[illegible]. MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, December 1952. Uncl.

SHIDLOVSKIY M E

[illegible] M. [illegible] Functions of elements of partially ordered spaces [illegible] Akad. Nauk SSSR (N.S.), 74, 1057-1060 (1950). Russian

In chapter IV of the treatise reviewed above, an elaborate construction is presented which enables one, in certain cases, to define continuous functions of elements of a K-space [illegible] is a real-valued function defined on [illegible] satisfying certain restrictions [illegible] with [illegible] $\otimes X$ [illegible] and range contained [illegible] space X which will in a certain [illegible] of the original function F. The [illegible] defined function of the induced [illegible]

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S/043/60/019/004/010/015XX
C 111/ C 333

AUTHOR: Shirokhov, M. F.

TITLE: The Application of the Functions of the Decompositions to the Theory of Semiordered Spaces

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki, mekhaniki i astronomii, 1960, Vol.19, No.4, pp.29-36

TEXT: The author uses notions and notations from (Ref.1) of L. V. Kantorovich, B. Z. Vulikh and A. G. Pinsker and proposes a new direct method for defining the continuous functions fo a decomposition (the method renders possible a generalization to certain discontinuous functions.)

Let $\mathcal{E}$ be a complete Boolean algebra, $e \in \mathcal{E}$. Let $\Omega(e)$ be the set of all decompositions $\omega(\lambda)$ of e. Let Ω be the set of all decompositions $\omega(\lambda)$ at all. It is put $\omega_1 \leq \omega_2$, $\omega_1, \omega_2 \in \Omega(e)$, if from $\lambda < \mu$ it follows $\omega_1(\mu) \geq \omega_2(\lambda)$. ω_1 and ω_2 are called equivalent, if $\omega_1 \leq \omega_2$ and $\omega_2 \leq \omega_1$ holds simultaneously.

Theorem 1. $\Omega(e)$ is a complete structure (proof in (Ref.1)).

Definition 2: Let $F(u,v)$ be a real continuous function defined in the whole plane, $\omega_1, \omega_2 \in \Omega$. Let the decomposition

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The Application of the Functions of the Decompositions to the Theory of Semiordered Spaces

$\omega_3 = F(\omega_1, \omega_2)$ be defined by $\omega_3(\lambda) = \text{l.u.b.}\{[\omega_1(b) - \omega_1(a)] \wedge [\omega_2(d) - \omega_2(c)]\}$, where l.u.b. is carried out over all segments $[a,b;\ c,\ d]$ for which it is

$$[a,b;\ c,d] \subset \mathop{\mathcal{E}}_{(u,v)} (F(u,v) < \lambda)$$

Theorem 2: 1.) Definition 2 gives a decomposition, i. e. $\omega_3 = F(\omega_1, \omega_2)$ satisfies the usual definition (Ref. 1).

Theorem 3: Let $F(u,v)$ and $\phi(u,v)$ be real continuous functions defined in the whole plane. Then: 1.) If $F(u,v) = \phi(u,v)$ everywhere except the set E which has zero weight relative to the decompositions ω_1, ω_2, then it is $F(\omega_1, \omega_2) = \phi(\omega_1, \omega_2)$; 2.) If $F(\omega_1, \omega_2) = \phi(\omega_1, \omega_2)$, then it is $F(u,v) = \phi(u,v)$ everywhere except the set E which has zero weight relative to ω_1 and ω_2.

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Theorem 4: Let $F_{1k}(u,v)$, $F_{2k}(u,v)$ $(k = 1,2, \ldots, m)$, $\Phi_1(u,v)$, $\Phi_2(u,v)$ be real, continuous, defined in the whole plane. If from $F_{1k}(u,v) = F_{2k}(u,v)$ $(k = 1,2,\ldots,m)$ it follows that $\Phi_1(u,v) = \Phi_2(u,v)$, where u, v are real numbers, then from $F_{1k}(\omega_1,\omega_2) = F_{2k}(\omega_1,\omega_2)$ $(k = 1,2,\ldots,m)$ it follows that $\Phi_1(\omega_1,\omega_2) = \Phi_2(\omega_1,\omega_2)$.

Theorem 5: The set Ω of the partitions of the unit of the algebra with introduced partial order and linearization is a K-space. (Proof see (Ref. 1)).

Theorem 6: The K-space Ω of the partitions of the unit of the algebra contains the unit and its basis is isomorphic to the initial Boolean algebra (proof see (Ref. 1)).

Let X be a K-space with unit, $\mathcal{E}(X)$ - its basis - a complete Boolean algebra. $\Omega(X) = K$ the space of the partitions of the unit of $\mathcal{E}(X)$. To every $x \in X$ there corresponds its characteristic

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$\omega \in \Omega(X)$, where $\omega(\lambda) = e_\lambda^x$. The subset of $\Omega(X)$ consisting of all characteristics is called Ω'.

Theorem 7: Every K-space with unit is isomorphic to the normal subspace $\Omega' \subset \Omega(X)$, where Ω' is complete in $\Omega(X)$.

There are 2 Soviet references.

Card 4/4

[illegible], [illegible]

Dissertation: "The [illegible] of pregnant [illegible] and for the fetus." Candidate of [illegible], Second Moscow Medical Institute imeni I. V. Stalin, 31 May 54. [illegible] Zabotnik, Moscow, 21 [illegible] 54.

[illegible], 2 Nov 1954

LOGIN, M.I.; SHIROKINSKIY, B.K.

Noiseless vibratory conveyer. Mashinostroitel' no.11:8 N '61. (MIRA 14:11)

(Conveying machinery)

SHIROKIY, B.

4247. SHIROKIY, B. -- O direktivakh kh s"yezda kompartii Chekhoslovakii po sostavleniyu plana razvitiya narodnogo khozyaystva na 1955 god i o kratkosrochnom plane znachitel'nogo uvelicheniya sel'skokhozyaystvennogo proizvodstva v blizhayshie 2-3 goda. Doklad na X s'yezde kompartii Chekhoslovakii. M. Gospolitizdat, 1954. 56 c. 21 cm. 100.000 ekz. (1-25 tys.) 60k. -- (54-58029)

SO: Knizhnaya Letopis', Vol. 1, 1955

SHIRANKOV, G.D.; SHIROKIY, D.K.

Electronic device for the automatic control of batching apparatus. Avtomatyka no.2:104-106 '57. (MLRA 10:8)

1.Kiivskiy ordena Lenina politekhnichniy institut.
(Automatic control)

KOMAROV, Gennadiy Pavlovich, inzh.; CHEKHOVOY, Yuriy Nikolayevich, inzh.; SHIROKIY, D.K., kand. tekhn. nauk, retsenzent; SAVCHENKO, L.Ya., inzh., red. izd-va; MATUSEVICH, S.M., tekhn. red.

[Automation of industrial processes in a thermal electric power plant]Avtomatizatsiia proizvodstvennykh protsessov teplovoi elektrostantsii. Kiev, Gostekhizdat, USSR, 1962. 116 p. (MIRA 16:2)

(Electric power plants) (Automatic control)

SOV/137-58-9-20219

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 299 (USSR)

AUTHORS Yakobson, I.I., Shirokiy, P.L., Khil'ko, N.I., Chubarov, L.B.

TITLE Technical Quality Control With Gamma Rays From Radioactive Cobalt Co^{60} (Tekhnicheskiy kontrol' gamma-luchami radioaktivnogo kobal'ta Co^{60})

PERIODICAL Sb. nauchn. tr. Tashkentsk. in-t inzh. zh.-d. transp., 1957, Nr 7, pp 131-142

ABSTRACT Described are γ-ray emitters, apparatus for flaw detection with γ-rays, methods for plotting gamma-diagrams, and the sensitivity of the method of flaw detection with γ-rays. The method is developed for the utilization of the GUP-Co-0.5-1 installation for γ-ray examination of steel 10-170 mm thick. For small thicknesses of steel (~ 10 mm) it is considered feasible to use Co^{60} provided that the focal distance is increased to 40-50 cm and that Pb electrons [electrodes? Transl. Note] are used. 1. Steel---Inspection 2. Gamma rays---Applications 3. Gamma ray analysis---Equipment 4. Cobalt isotopes T.R. (Radioactive)---Performance

Card 1/1

SHIROKIY, P.L.

Casting shot-blasting turbine parts from high-manganese steel.
Lit. proizv. no.1:48 Ja '59. (MIRA 12:1)
(Founding)

SHIROKIY, P.L.

Introduce new technical methods and equipment in diesel locomotive repair plants. Elek. i tepl. tiaga 5 no.3:5-7 Mr '61. (MIRA 14:6)

1. Nachal'nik Tashkentskogo proyektno-konstruktorskogo byuro Glavnogo upravleniya lokomotivoremontnymi i vagonoremontnymi zavodami po romontu teplovozov.
(Diesel locomotives—Repairing)

SHIROKIY, V.

Attention, readers. Energetik 9 no.5:40 My '61. (MIRA 14:5)

1. Zaveduyushchiy otdelom spetsvidov tekhnicheskoy literatury Gosudarstvennoy publichnoy nauchno-tekhnicheskoy biblioteki SSSR.

(Technical libraries)

ZHIVNIY, Karel [Zivny, Karel]; SHIROKIY, V.A. [translator]; VAYSFEL'D, I.N., red. [deceased]; KHITROVA, N.A., tekhn. red.

[Electric heating of trains] Elektricheskoe otoplenie zheleznodorozhnykh sostavov. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va soobshcheniia, 1961. 54 p. (MIRA 15:2)
(Czechoslovakia--Railroads--Cars--Heating and ventilation)

Alterations in the excitability of the motor nerve under the influence of the electrolytes potassium, calcium, magnesium and sodium. V. V. Shurchal and I. I. Kalikin. (Trans. Dept. of S. S. R. Y. A. [illegible] (in French) (Russ.) Hypertonic solns. of KCl, $MgCl_2$, NaCl and $CaCl_2$, when applied to the rheoscopic nerve of frogs, cause an excitation of the nerve after variable periods of time, resulting in muscular contraction. S. A. K.

METALLURGICAL LITERATURE CLASSIFICATION

CH

PROCESSES AND PROPERTIES INDEX

A new method for the simultaneous feeding and observation of the isolated heart in situ and the importance of the method for the investigation of the problem of chemical coördination. V. F. Shirokii. *J. Physiol.* (U. S. S. R.) 27, 372-8(in English, 378)(1939).—For the investigation of the problem of chem. coördination the arteries and veins of a donor dog are joined to the heart-lung prepn. from another dog. Fibrillation is relieved by the injection of 0.5% KCl and 1% NaCl solns. into the coronary vessels of the isolated heart until fibrillation is stopped, followed by a mixt. of 1% $CaCl_2$ and 1% NaCl until the nomotopic rhythm is restored. A neg. ino- and chronotropic response to K ion and a pos. response to Ca ion are given by the isolated heart when the donor dog is injected with these electrolytes under morphine and $CHCl_3$ anesthesia. The heart of the donor shows a slowing of the heart beat and a rise in blood pressure. The injection of Mg and Na causes an acceleration of cardiac rhythm and fall in blood pressure in the donor dog with slowing of the rate and weakened systolic contractions of the isolated heart. The injection of adrenaline into the donor results in a lowering of the heart rate in the donor and an acceleration of the rhythm in the isolated heart. The denervated isolated heart is more susceptible to $CHCl_3$ than the normally innervated heart of the donor.

S. V. Kariala

METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

The vegetative cutaneous reflexes and the effect of electrolytes. V. N. Shirokii. *J. Physiol. U. S. S. R.* 29, 165-72(in English, 172)(1940).—Intracutaneous injection of NaCl, KCl, $CaCl_2$ and $MgCl_2$ in isotonic or hypertonic solns. affects the vegetative nerves of the heart and the nictitating membrane of cats, as shown by alteration of excitability of the peripheral end of the cardiac vagus under action of induction current. The tonus of the sympathetic nervous system is augmented by all the above electrolytes in the isotonic concns. In addn. 0.85% NaCl soln. simultaneously increases the tonus of the parasympathetic nervous system in practically all cases. An isotonic (1%) KCl soln. increases the tonus of the latter in 70% of the cases, a 2.8% $CaCl_2$ soln. in 30% of the cases, and a 2.8% $MgCl_2$ soln. in only a few cases. In the remaining cases K, Mg and Ca ions lower the tonus of the parasympathetic system, while increasing that of the sympathetic nerves. Hypertonic solns. of NaCl and KCl give only a weak (5%) or transitory (10%) increase of the sympathetic nerve-tonus, accompanied by a lowering of the tonus of the parasympathetic system. The narcotic used and the species of the animal affect the results. The specificity of the electrolyte action was demonstrated by addnl. expts. with Ringer soln. 8 references. C. S. Shapiro

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

[illegible]

[illegible] irritation; a criticism of the theory of the abstract [illegible] of [illegible]; [illegible], [illegible] Kn-vo, 1[illegible].

4. [illegible], Library of Congress, May 1[illegible]. Incl.

SHIROKIY, V. F.

"Theory of Non-linear Relations and the Quality of Irritation."

Report presented at the Pharmocology Conference, Ryazan, 17 19 June 1954

SHIROKIY, V.F., otv.red.; ANOKHIN, P.K., red. (Moskva); DVOYNINA, A.P., red.; LABUTIN, I.I., red.; LINNIKOV, G.S., red.; ROBINSON, V.Ye., red.; SAKHAROVA, O.S., red.; FROLOV, Yu.P., red. (Moskva)

[Abstracts of reports of the Scientific Conference in Honor of the 110th Anniversary of Ivan Petrovich Pavlov's Birth, 1959] Tezisy dokladov Nauchnoi konferentsii, posviashchennoi 110-i godovshchine so dnia rozhdeniia Ivana Petrovicha Pavlova. Riazan', 1959. 224 p. (MIRA 14:2)

1. Nauchnaya konferentsiya, posvyashchennaya 110-y godovshchine so dnya rozhdeniya Ivana Petrovicha Pavlova, 1959. 2. Kafedra fiziologii Ryazanskogo meditsinskogo instituta imeni akademika I.P.Pavlova (for Shirokiy). 3. Kafedra normal'noy fiziologii Ryazanskogo meditsinskogo instituta imeni akademika I.P.Pavlova (for Dvoynina). 4. Kafedra fiziologii zhivotnykh Ryazanskogo sel'skokhozyaystvennogo instituta imeni P.A.Kostycheva (for Labutin). 5. Dom-muzey akademika I.P.Pavlova, Ryazan' (for Linnikov). 6. Kafedra anatomii i fiziologii Ryazanskogo pedagogicheskogo instituta (for Robinson). 7. Kafedra normal'noy fiziologii Ryazanskogo meditsinskogo instituta imeni akademika I.P.Pavlova (for Sakharova).
(NERVOUS SYSTEM)

SHIROKIY, V.P., prof.; SAKHAROVA, O.S., dotsent, red.; SMIRNOV, N.I., tekhn. red.

[New data in the development of I.P.Pavlov's teaching on the circuit-closing function of the brain and the problem of inhibition; speech to the assembly, October 20, 1959] Novye dannye v razvitii uchenii I.P.Pavlova o zamykatel'noi funktsii golovnogo mozga i problema tormozheniia; aktovaia rech' 20 oktiabria 1959 goda. Riazan', Riazanskii med. in-t im. akademika I.P.Pavlova, 1959. 41 p. (MIRA 14:5)
(INHIBITION) (PAVLOV, IVAN PETROVICH, 1849-1936) (BRAIN)

SHIROKIY, V.F.

Problem of functional changes in the spinal cord of frogs during stimulation of the optic thalami with sodium and magnesium salts. Fiziol.zhur. 47 no.5:575-581 My '60. (MIRA 14:5)

1. From the Department of Physiology, I.P.Pavlov Medical Institute, Riazan.

(SPINAL CORD) (SODIUM CHLORIDE—PHYSIOLOGICAL EFFECT)
(OPTIC THALAMUS) (MAGNESIUM—PHYSIOLOGICAL EFFECT)

SHIRINKIY, V.P., prof.; DEYNEKA, V.S.

Organization, tasks and results of a profound study of the influence of working conditions on the organism of the workers of the Ryazan Combine of Artificial Fibers. Nauch. trudy Riaz.med.inst. 23:3-9 '63.

(MIRA 18:12)

CHURSIN, G.P.; SHIROKIY, V.K.; KANASHEVICH, V.I.

New supplementary operating program for the AI-100-1 pulse height analyzer. Izv. AN SSSR. Ser. fiz. 29 no.7:1233-1235 Jl '65. (MIRA 18:7)

SVIT KIRIMCHI, T.

"Cultivating Young Saplings," p. 426. (GORSKO STOPANSTVO, Vol. 9, no. 9, Nov. 1953. Sofiya, Bulgaria.)

So: Monthly List of East European Accessions, LC, Vol. 3, No. 5, May, 1954;/Unclassified

SHIROKOGOROV, M.M.

Gelatin from whale sinews. Patent U.S.S.R. 77,281, Dec.31, 1949.
(CA 47 no.19:10262 '53)

SHIROKOLOV, O.G. (Yenisey)

Exponential function. Mat. v shkole no. 6:55-56 N-D '60. (MIRA 14:2)

(Functions, Exponential)

SHIHOLORAD, P. V.

SHIHOLORAD, P. V. -- "Limit Laws of Calculation for Heterogeneous Markov Chains With Two Conditions." Sub 26 Jun 52, Moscow City Pedagogical Inst imeni V. P. Potemkin. (Dissertation for the Degree of Candidate in Physicomathematical Sciences).

SO: Vechernaya Moskva January-December 1952

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Širokorad, B. V. On the applicability of the central limit theorem to Markov chains. Izvestiya Akad. Nauk SSSR. Ser. Mat. 18, 95–104 (1954). (Russian)

Let s_n be the sum of the first n variables of a Markov chain with the two states 0, 1 and mth transition matrix $[{}_mp_{ij}]$, where ${}_mp_{10} \sim am^{-\alpha}$, ${}_mp_{01} \sim bm^{-\beta}$, $0 < \alpha \leq \beta \leq 1$. The following theorems are proved. (1) If $\beta < 1$, then $[s_n - E\{s_n\}]/(\text{st. dev. } s_n)$ is asymptotically normal, with mean 0 and variance 1. (2) If $\alpha < \beta = 1$, then s_n/n^α has asymptotically the distribution with density const. $\times t^{(b/a)-1}e^{-at}$, for $t \geq 0$. (3) If $\alpha = \beta = 1$, then s_n/n has asymptotically the distribution with density const. $\times t^{b-1}(1-t)^{a-1}$, for $0 \leq t \leq 1$.

J. L. Doob (Urbana, Ill.).

10-28-54 LL

AUTHOR: Shirokorad, B. V. (Moscow) SOV/103-19-10-5/12

TITLE: On the Existence of a Cycle Beyond the Conditions for the Absolute Stability of a ~~Three-Dimensional~~ System (O sushchestvovanii tsikla vne usloviy absolyutnoy ustoychivosti trekhmernoy sistemy)

PERIODICAL: Avtomatika i telemekhanika, 1958, Vol 19, Nr 10, pp 953-967 (USSR)

ABSTRACT: This is an investigation of some properties of the phase characteristics of a basic system of automatic control (Ref 2) which is specified by equations (1). The ingenious feature of the problem raised in this paper is that the investigation of the phase characteristics is conducted beyond the necessary and sufficient conditions (as conceived by Lur'ye-Letov, Ref 1), excluding the bifurcation case at the boundary (Ref 16). The analytical investigation is preceded by two physical interpretations: 1) An automatically controlled system (Ref 2) consisting of an aircraft and a stabilizer, the controlled variable being the angle of bank γ. 2) The classic diagram of a univalve electronic generator (Ref 11). The existence of a non-trivial (in the special case of a

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SOV/103-19-10-5/12

On the Existence of a Cycle Beyond the Conditions for the Absolute Stability of a Three-Dimensional System

periodic) stabilized operation schedule beyond the conditions for absolute stability (as conceived by Lur'ye - Letov, Ref 1) is proved. These conditions hold for a self-operated system with the neutral object and a controller with a non-linear rate of setting the final element. Although this method was derived from the investigation of the phase characteristics of three-capacity systems of automatic control with a non-linear final element, the results can be generalized to three-capacity and multi-capacity systems incorporating non-linearities of different kind. The relations advanced in this paper make possible an estimation of the limits of the tuning-in of the transfer-conditions of the automatic system and of the amplitudes of possible oscillations in practical cases. The remarks stemming from B. N. Petrov, V. V. Nemytskiy, E. M. Vaysbord and Yu. P. Portnov-Sokolov were taken account of in this paper. There are 9 figures and 24 references, 18 of which are Soviet.

SUBMITTED: March 13, 1958

Card 2/2

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E140/E435

16.9500 (1024, 1031, 1344)

AUTHOR: Shirokorad, B.V. (Moscow)

TITLE: On the Almost-Periodic Regime of a Four-Dimensional Automatic Control System

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1960, No.5, pp.159-165

TEXT: Paper presented at the V.V. Nemitskiy Seminar (qualitative theory of differential equations) at Moscow State University, February 22, 1959 and partly at the 1st All-Union Meeting of Mechanics Specialists, February 1, 1960.
In the design of multi-dimensional control systems with $n \geq 3$ the basic concepts of automatic-control theory, the starting, transient steady-state and other complex regimes are difficult to define. The article constitutes an attempt to define these concepts using the Perron theorem (Ref.6) and the concept of canonic control system. The basic method of the article is topological composition. It is claimed that the theory developed here permits finding the starting characteristics of multi-dimensional interacting control systems with many non-linearities.

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On the Almost-Periodic Regime of a Four-Dimensional Automatic Control System

Acknowledgments are expressed to B.N.Petrov and V.V.Nemitskiy for formulating the problem and for their assistance. There are 11 references: 3 Soviet, 6 English and 2 Italian.

SUBMITTED: February 3, 1960

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S/103/60/021/04/02/007
B014/B014

AUTHOR: Shirokorad, B. V. (Moscow)

TITLE: Steady Performance of Automatic Control Systems

PERIODICAL: Avtomatika i telemekhanika, 1960, Vol. 21, No. 4, pp. 456-464

TEXT: This is the reproduction of a lecture delivered on January 29, 1960 at the First All-Union Conference on Mechanics. - The author first states that the characteristics of independent automatic control systems can be described by a set of ordinary differential equations as, e.g., by equation (1) in Cauchy form. According to A. M. Lyapunov (Ref. 2), every unperturbed solution of (1) is steady with regard to its initial perturbations. The determination of steady states is of special importance in the study of automatic control systems. Some earlier publications on this subject are mentioned (K. F. Teodorchik, V. V. Nemytskiy, A. A. Andronov, and M. A. Ayzerman). The author makes use of the topological dynamics for determining the characteristics of a dynamic system. Thus, conditions for a periodic performance of the systems are established. Publications by A. A. Markoff (Ref. 13) are mentioned in this connection.

VC

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VC

ACC NR: AT7000582 SOURCE CODE: UR/3124/65/010/000/0023/0031

AUTHOR: Shirokorad, B. V.

ORG: none

TITLE: On the nearly periodic motion regime of gyroscopic guiding apparatus

SOURCE: Moscow. Universitet druzhby narodov. Trudy, v. 10, 1965. Matematika, no. 1, 23-31

TOPIC TAGS: gyroscope, control equipment, control circuit, control jet, pneumatic control, servomechanism system

ABSTRACT: An automatic guiding apparatus is described for observing celestial bodies. The distributing system of the apparatus consists of an electromagnet with a constant current magnetization winding and an armature on which a nozzle is mounted. The armature rotates on its axis under a ponderomotive force according to the law

$$T_p\dot{\alpha}_p + \alpha_p = k_p\alpha.$$

The equations governing the state of the gas in the instrument cavity are given, and for $T_p = 0$ the following power equation is obtained for the distributing instrument

$$\lambda = k_\alpha\alpha - k_y\dot{y} - f(\lambda),$$

where λ is the resultant pressure of the compressed air on the piston. The equations of motion for the external frame of the apparatus are

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$$\left.\begin{aligned} J_1\dot{v} + M_1 v + \dot{\alpha} + l_1\lambda &= 0 \\ -v - i_1\ddot{\alpha} + m_1\dot{\alpha} &= 0 \\ \dot{\lambda} = k_\alpha \alpha + k_v v - f(\lambda) \end{aligned}\right\},$$

where

$$J_1 = k_v J/H_1,\ M_1 = k_v M/H_1,\ i_1 = i/H_1 k_v,\ m_1 = m/H_1 k_v,\ l_1 = l_0/H_1\ ,$$

assuming that the angle of rotation of the internal frame B is zero relative to the external universal joint of the antenna. It is shown that there exists an almost periodic regime with two mutually independent frequencies, one of which is close to the nutation frequency and the other is proportional to the angle B. Orig. art. has: 14 equations and 1 figure.

SUB CODE: 17/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 002

Card 2/2

SHIROKORAD, B.V.

Stability in the large of the zero solution to a coagulated system. Dif. urav. 1 no.9:1177-1182 S '65.

(MIRA 18:10)

1. Universitet druzhby narodov imeni Patrisa Lumumby.

BASHKOV, K.; SHIROKORAD, T.; [illegible]OVA, [illegible].

Anthrax in the Tirnovo District in 1958-1962. Suvr. med. (Sofiia) 15 no.6:16-23 '64

SHIROKOV, A., kand.tekhn.nauk

Recent developments in working steep seams. Sov. shakht. 11 no.9:13-15 S '62. (MIRA 15:9)

1. Sotrudnik neshtatnogo otdela zhurnala "Sovetskiy shakhter" po Kemerovskoy oblasti.
(Kuznetsk Basin--Coal mines and mining)

1. [illegible], A.

2. USSR(600)

4. Education, Higher

7. For greater student progress. V. sov. profsoiuzy 14 No. 6, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

MOROZOV, N.; SHIROKOV, A.; LIVSHITS, V.I.; prepodavatel'; KRUTIKOV, A.D.; KOLBIN, V.

The magazine "Sovetskaia potrebitel'skaia kooperatsiia." Sov. torg. no.10:50-54 O '57. (MIRA 10:11)

1. Zamestitel' direktora po nauchnoy chasti Nauchno-issledovatel'skogo instituta torgovli i obshchestvennogo pitaniya (for Morozov). 2. Rukovoditel' raboty, starshiy nauchnyy sotrudnik Nauchno-issledovatel'skogo instituta torgovli i obshchestvennogo pitaniya (for Shirokov). 3. Tekhnikum sovetskoy torgovli v Pyatigorske (for Livshits). 4. Direktor Moskovskogo magazina samoobsluzhivaniya No.65 "Gastronom" (for Krutikov). 5. Zamestitel' nachal'nika Upravleniya torgovli prodovol'stvennymi tovarami Leningrada (for Kolbin).

(Cooperative societies--Periodicals)

SHIROKOV, A.; NOVITSKIY, A.

Progressive trade methods are an important source for economizing communal labor. Sots.trud 5 no.8:73-78 Ag '60.(MIRA 13:11)
(Retail trade)

VINOGRADOV, V.; SHIROKOV, A., kand.edonomicheskikh nauk

Department stores should have progressive forms of trade.
Sov. torg. 36 no.10:10-15 O '62. (MIRA 16:2)
(Department stores)

SHIROKOV, A.

They need the help of the regional economic council. Okhr. truda i sots. strakh. 3 no.5:60 My '60. (MIRA 13:12)

1. Predsedatel' komissii okhrany truda Shchelkovskogo khimicheskogo zavoda Moskovskoy oblasti. "Ventilator."
(Shchelkovo—Chemical industries—Hygienic aspects)

MAKHARASHVILI, A., kand. ekonomicheskikh nauk; SHIROKOV, A., kand. ekonomicheskikh nauk

Domestic trade of the Georgian A.S.S.R.; 1921-1932" by V. I. Abuladze. Reviewed by A. Makharashvili, A. Shirokov. Sov. torg. 36 no.2:38 F '63. (MIRA 16:4)

(Georgia—Commerce) (Abuladze, V. I.)

SHIROKOV, A.

"Latvia" subdues. Grazhd. av. 22 no. 10:24 O '65.
(MIRA 18:12)

SHIROKOV, A. A.

USSR/Geological Prospecting Apr 1948
Tectonics
Minerals

"Relief and Structure of the Pre-Cambrian Base of the Russian Platform," A. A. Shirokov, 8 pp

"Priroda" No 4

Importance of Pre-Cambrian deposits lies in their mineral wealth. Examples are Kriviy Rog and Kursk in USSR, Lake Superior in America, and Kirun in Sweden. In recent years, interest in Pre-Cambrian matters has increased in USSR and abroad, as shown by discovery of the Grenville iron deposits in Labrador, and the

78127

USSR/Geological Prospecting (Contd) Apr 1948

titanomagnetite ores near Lake Nyassa. Unfortunately in Russia Pre-Cambrian deposits are usually very deep. Discusses location, giving views of various geologists, illustrated by hypsometric diagram.

78127

SHIROKOV, A.A.; LEBEDEV, V.I.; KOVALEV, K.G.

Experimental and practical work in interpreting aerial color photographs. Geod. i kart. no. 11:34-35 N '60. (MIRA 13:12)
(Photographic interpretation)

PA 50/49T48

SHIROKOV, A. A.

May 49

USSR/Geology
Coal Deposits
Methane

"Reply to A. I. Kravtsov and V. V. Vladimirskiy on the Methane Content of the Coal Strata of the Donets Carboniferous," A. Z. Shirokov, 1½ pp

"Ugol'" No 5

Claims Kravtsov's ideas on methane distribution in the carboniferous strata are based neither on facts nor on the geological history of the Donbas. Moreover, he does not in any way disprove author's theories on the relation between metamorphism of coal and its methane content.

50/49T48

SHIROKOV, A.A.; LATYPOV, E.A

It pays to drill small diameter wells. Neftianik 5 no.6:7-8 Je '60. (MIRA 13:7)

1. Starshiy inzhener prozvodstvenno-tekhnicheskogo otdela kontory bureniya No.4 tresta Tuymazaburneft' (for Shirokov). 2. Starshiy inzhener planovogo otdela kontory bureniya No.4 tresta Tuymazaburnef' (for Latypov).
(Tuymazy region (Bashkiria)--Oil well drilling)

BLINOV, V.I., inzh.; SHIROKOV, A.F., elektromekhanik

Improvement of a portable control panel. Avt., telem. i sviaz' 5 no.1:31 Ja'61. (MIRA 14:3)

1. Ufimskaya laboratoriya signalizatsii i svyazi Kuybyshevskoy dorogi (for Blinov). 2. Ufimskaya distantsiya signalizatsii i svyazi Kuybyshevskoy dorogi (for Shirokov).
(Railroads—Electronic equipment) (Railroads—Signaling)

SHIROKOV, A.G. (Chita); DUKHANIN, V.A. (Chita).

Mastic for sealing glass medicine bottles. Apt.delo 2 no.3:56-58 My-Je '53. (MLRA 6:6)

(Laboratories--Apparatus and supplies)

8(0), 25(5) SOV/91-59-10-23/29

AUTHOR: Shirokov A.I.

TITLE: At the 4th Plenum of Trade-Union Central Committee

PERIODICAL: Energetik, 1959, Nr. 10, pp 34-35, (USSR)

ABSTRACT: In August, 1959, the 4th Plenum of the Central Committee of the trade-union of workers of electric power stations and electrical industry took place. At the Plenum, two questions were discussed: "On Results of the June Plenum of the Central Committee of the Communist Party of the Soviet Union, and on the Problems of Professional Organizations", and on the decision of the VTsSPS Presidium "On the Work of the Central Committee of the Trade-Union of Workers of Electric Power Stations and Electrical Industry." A number of persons appeared at the Plenum: President of the State Committee on Radio-Electronics attached to the Council of Ministers of the USSR, V.D. Kalmykov, noted that leading role in the development of industrial progress belongs to radio-electronics. Over the last 7 years, the general increase in Soviet industry amounted to 80%; production volume in machine-buil-

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SOV/91-59-10-23/29

At the 4th Plenum of Trade Union Central Committee

ding increased 2 times, and in electrical industry - 3 times. Production in the field of electronics will develop at a still higher rate; its volume will be increased within the next 7 years more than 3.5 times. In 1965, 3.5 million television receivers will be produced, and over 7 million radio-sets. By that time, there will be more than 150 television centers in the country, so that 85% of the Soviet Union population will enjoy television. The first Deputy Assistant of the Minister of Building of Electric Power Stations, P.S. Neporozhniy, stated that the Ministry has developed a number of projects how to double and treble, within the next few years, production of energetic installations and to create the high-voltage networks which would ensure total electrification of the country. The Cief of Direction of the State Committee on Automation and Machine-Building at the Council of Ministers of the USSR, N.I. Borisenko, stated: "Although our rate of development in the sphere of electro-technics and instrument building is more rapid than in other branches of machine-building, it is still insufficient".

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SOV/91-59-10-23/29

At the 4th Plenum of Trade Union Central Committee

Special emphasis is to be laid upon decreasing manual labor which in the electrical industry still amounts to 60%. Deputy Assistant of the President of the Central Board of Administration of the Scientific-Technical Society of the Energetics Industry, A.P. Pavlushkov, reported on the task carried out by the organization NTO in compliance with decisions passed at the June Plenum of the Central Committee of the Communist Party of the USSR. So, for instance, the Murmansk Administration Board had developed and realized 11 projects for mechanization of electro-transmission repair works, 27 projects for automation and telesignalization of GES, substations, communication channels, etc. He criticized the Gosplan which delays the examination of proposals submitted by the Scientific-Technical Society and concerning the rapid development of the electro-technical industry. The Secretary of the Kemerovskaya Oblast' Trade-Union Committee, Palkin, reported on the high activity of workers' gatherings in discussing the Plenum decisions and working out practical measures for their

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SOV/91-59-10-23/29

At the 4th Plenum of Trade Union Central Committee

realization. The woman-worker in the nickeling department of the Kursk Electrical Appliances Plant, Drobysheva, called the attention of the Gosplan USSR and Gosplan RSFSR to unsatisfactory planning of material funds. The Chairman of the Stalino Trade-Union Obkom, Prudkiy, told about the exchange of experience between individual enterprises. A talk on the second question was given by Chairman of the Central Committee of the Trade-Union of Workers of the Electric Power Stations and Electrical Industry, M.Ya. Aleksandrov. He reported on shortcomings in the work of the Trade-Union Committee that were disclosed by decision of the VTsSPS Presidium on July 3, 1959, and on the measures outlined to eliminate them. Chairman of the Saratov Trade-Union Obkom, Ivanov, Instructor for Teaching Advanced Methods of Work (City: Gor'kiy), Denisov noted the rightness of decisions passed by the Presidium of the VTsSPS. In conclusion, Secretary of the VTsSPS, A.A. Bulgakov, sharply criticized the activity of the Trade-Union Central Committee: The work on realization of plans worked out by the 21st Par-

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SOV/91-59-10-23/29

At the 4th Plenum of Trade Union Central Committee

ty Congress and by the 12th Trade-Union Congress is not being carried out in the proper way; there is not enough control over implementing collective agreements; labor protection and safety measures are not adequate; the leaders of trade-union committees commit serious errors in their work. The Plenum of the Trade-Union Central Committee admitted its mistakes and will take measures to eliminate them in the future.

Card 5/5

SHIROKOV, A.I.

In socialist Hungary. Energetik 8 no.9:36-37 S '60. (MIRA 14:9)
(Hungary--Electric industries)
(Hungary--Electric power)

SHIROKOV, A.I.

The state regional electric power plant of Chelyabinsk has become an enterprise of communist labor. Energetik 9 no.8:31-33 Ag '61. (MIRA 14:8)

(Chelyabinsk—Electric power plants)

SHIROKOV, A. I.

Concerning the work of electric power line electricians on duty at home. Energetik 10 no.8:33-34 Ag '62. (MIRA 15:10)

(Electricians)

SHIROKOV, A.I.

Second Congress of the Central Administration of the Scientific and Technical Society of the Power Industry. Energetik 10 no.6:33-35 Je '62. (MIRA 16:3)
(Power engineering--Congresses)

SHIROKOV, A.I.

Combination of functions in work in electrical systems. Energetik 10 no.9:36 S '62.

Regulations governing the awarding of workers for economizing electric power and improving the power factor. Ibid.:36-37 (MIRA 17:1)

SABUROV, Nikolay Yakovlevich; SHIROKOV, Aleksandr Ivanovich; ZOLOTAREVA, M.A., red.

[Safety engineering rules in effect in the electric equipment and radio industries] Sbornik deistvuiushchikh pravil po tekhnike bezopasnosti v elektrotekhnicheskoi i radiotekhnicheskoi promyshlennosti. Moskva, Izd-vo "Energiia," 1964. 520 p. (MIRA 17:5)

SHINKOV, A.I.

Classification of electricians. Energetik. 13 no.2:28 F '65. (MIRA 18:6)

SHIROKOV, A.I., inzh.

Additional leave for storage battery industry workers. Energetik. 13 no.9:37 S '65. (MIRA 18:9)

SHIROKOV, A.I., inzh.

Work clothes for electric power plant employees. Energetik 13 no. 12:24 D '65 (MIRA 19:1)

Wages of electricians operating motor vehicles. Ibid.: 24

1. Konsul'tant zhurnala "Energetik".

S/188/62/000/003/006/012
B111/B112

A new method of studying...

reversal of the ferroelectric. The authors studied $BaTiO_3$ single crystals and Seignette salts. For $BaTiO_3$ the change of ε is due to the orientation of the domains and to the difference in permittivity along and perpendicular to the direction of polarization. In all $BaTiO_3$ crystals the leading edges of the input and output pulses were shifted by less than 0.1 μsec, in contrast with the results obtained by W. Merz (J. Phys. Rev., 95, 690-698, 1954; J. Appl. Phys. 27, 938-943, 1956). This divergence is probably due to the smaller dimensions of the specimens ($0.5 \cdot 0.5 \cdot 0.5$ mm^3) and to the different mechanical deformation, but definite explanations would need to be based on more exact experiments. Unlike what happens in barium titanates, output pulse amplitude oscillations occurred in Seignette salts at a frequency exactly corresponding to the mechanical natural vibration. This new method does not make it possible to observe pole reversal of materials whose spontaneous polarization has only two orientations, but it offers the advantage over all ordinary methods that the beginning of pole reversal can be observed. There are 4 figures.

Card 2/3

SHUVALOV, L.A.; SHIROKOV, A.M.

Nonlinear elasticity of Rochelle salt crystals due to resonance vibrations. Kristallografiia 9 no.6:886-892 N-D '64. (MIRA 18:2)

1. Institut kristallografii AN SSSR.

ACCESSION NR: AP4016505 S/0020/64/154/005/1075/1077

AUTHORS: Shuvalov, L.A.; Shirokov, A.M.

TITLE: The characteristics of the amplitude dependence of internal friction in single-crystal ferroelectrics

SOURCE: AN SSSR. Doklady*, v. 154, no. 5, 1964, 1075-1077

TOPIC TAGS: deformation, deformation amplitude, internal friction, ferroelectric, ferrite, Weiss domain, triglycin sulfate, domain structure, domain reorientation, single crystal, tinsel silver, damped oscillation, dielectric hysteresis

ABSTRACT: An experimental study has been made of some features of the internal friction in single crystals of Rochelle salt and triglycin sulfate with various types of the Weiss domain structure. The bar-shaped samples, measuring about 30x4x2 mm, were tested in a constant-temperature retort. As it was very difficult to measure the deformation amplitude of the samples, the experimental curves were plotted according to the current passed through the crystal by

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ACCESSION NR: AP4016505

mechanical resonance oscillations. The behavior of the logarithmic damping decrement was studied while the current going through the sample was changed from 0.02 to 2 milliamperes. The results of the above tests justify the following two basic conclusions: 1) the intensive internal friction in some of the Rochelle salt samples within the ferroelectric temperature region is determined by a variety of Weiss domain processes. It is possible that large deformation amplitudes produce volumetric deformations which change the nature of the internal friction. 2) It may be assumed that the amplitude dependence of the internal friction in the case of relatively small deformations will be observed in the ferroelectric region of the Rochelle salt crystals in which the reorientation of the Weiss domains may occur under the effect of homogeneous mechanical stresses. Orig. art. has: 2 figures.

ASSOCIATION: Institut kristallografii Akademii nauk SSSR (Institute of crystallography, Academy of Sciences SSSR)

SUBMITTED: 21Oct63 DATE ACQ: 12Mar64 ENCL: 00
SUB CODE: PH NO REF SOV: 008 OTHER: 004

Card 2/2

ACC NR: AM6012202 Monograph UR/

Shirokov, Aleksandr Mikhaylovich

Principles of the reliability and use of electronic equipment (Osnovy nadezhnosti i ekspluatatsiya elektronnoy apparatury) Minsk, Nauka i tekhnika, 1965. 265 p. illus., biblio., tables 6750 copies printed

TOPIC TAGS: electronic equipment, reliability engineering, reliability theory, system reliability

PURPOSE AND COVERAGE: This book is intended for scientific and technical personnel concerned with the design and use of electronic equipment, and can also be used by students in advanced courses at radio-engineering schools of higher education. The basic problems involved in the use of electronic equipment are reviewed. Much attention is paid to reliability, preventive maintenance and the reconditioning of equipment. Methods of experimentally studying reliability are discussed, and methods for evaluating equipment effectiveness are proposed.

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ACC NR: AM6012202

Part 1
Reliability of Electronic Equipment

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ACC NR: AM6012202

SUB CODE: 14, 09/ SUBM DATE: 04Dec65/ ORIG REF: 038/ OTH REF: 006

Card 7/7

SOV/133-58-8-16/30

AUTHORS: ~~Shirchov, A.M.,~~ Candidate of Technical Sciences, and Zannes, A.M., Trivalova, A.I., and Migol', G.N.

TITLE: Favorable Conditions for Induction-hardening of Various Parts of Equipment (Ratsional'nyye rezhimy induktsionnoy zakalki detaley oborudovaniya)

PERIODICAL: Stal', 1958, Nr 8, pp 730 - 736 (USSR)

ABSTRACT: Optimum conditions for hardening with high-frequency currents on an installation with a rotary generator of 100 kW (2 500 cps) of rolls of various diameters, tooth wheels, crane wheels and brake pulleys were investigated. The results are given in tables and figures. It is concluded that by using the above equipment for hardening a depth of the active layer of 2 - 4 mm can be obtained. The total depth of the hardened layer of up to 10 mm can be obtained. Application of high-frequency hardening brought about an increase in the service life of machine parts, on the average, by 2-3 times. There are 11 figures, 3 tables and 3 Soviet references.

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SOV/13-58-8-16/30

Favorable Conditions for Induction-hardening of Various Parts of Equipment

ASSOCIATION: Zhdanovskiy metallurgicheskiy institut (Zhdanov Metallurgical Institute) and Zavod "Azovstal'" ("Azovstal'" Works)

1. Metals--Hardening 2. High frequency currents--Applications

Card 2/2

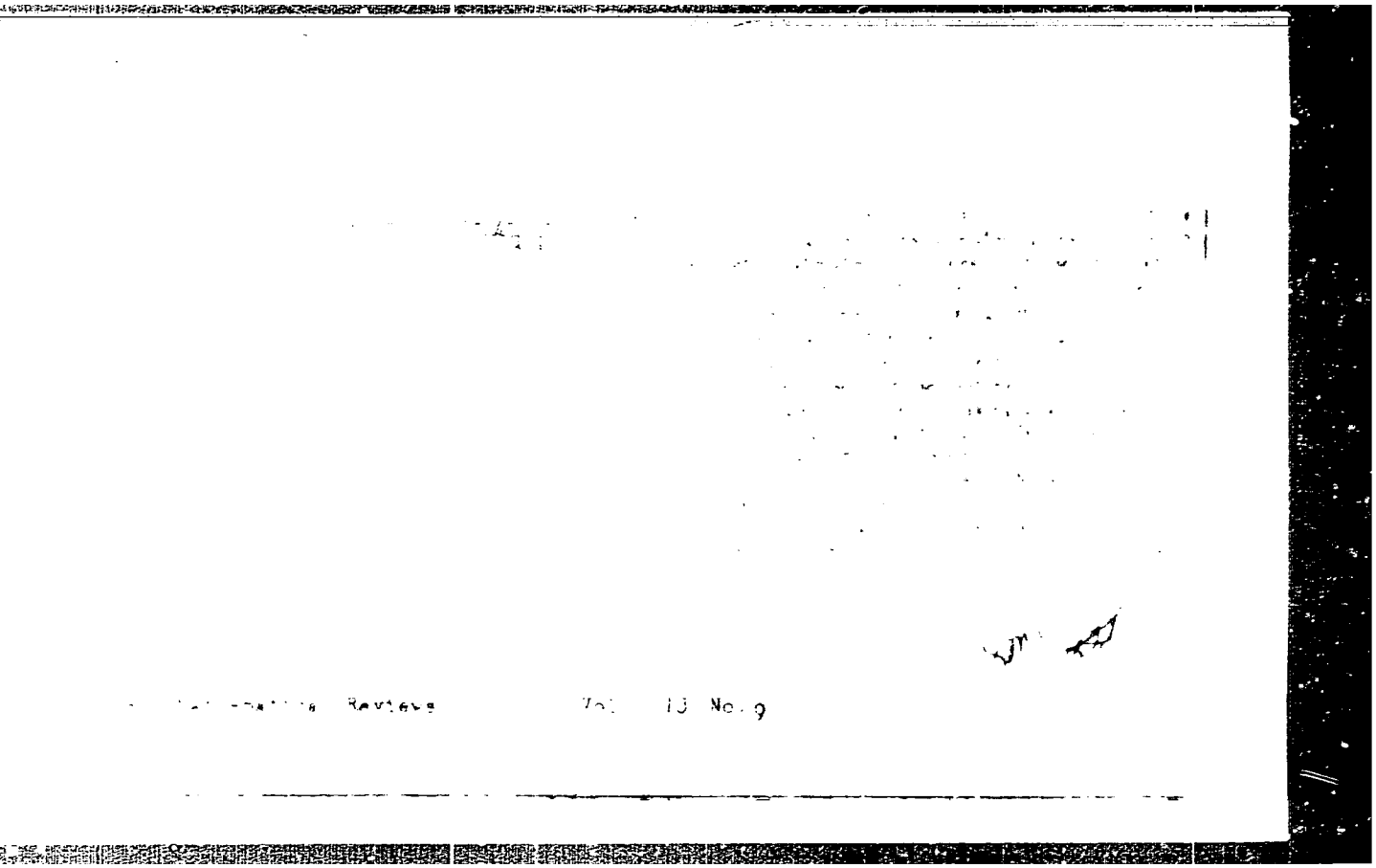
GRIGORYEV, A.V.; SHIROKOV, A.P.

Construction parameters of a disk cutter with radially disposed cutting parts. Trudy KHTI no.18:241-254 '53 [publ. '54]. (MIRA 12:11)
(Cutting machines)

KOVACHEVICH, P. M. prof.; SHIROKOV, A.P., kand. tekhn. nauk

Investigation of coal breaking in manless mines in the mining of steep beds at Kuznetsk Basin upper levels. Izv. vys. ucheb. zav.; gor. zhur. 6 no. 9: 14-21 '63. (MIRA 17:1)

1. Kemerovskiy gornyy institut (for Kovachevich).
2. Kuznetskiy nauchno-issledovatel'skiy institut (for Shirokov).



Mathematical Reviews
Vol. 15 No. 1
Jan. 1954
Geometry

6-23-54

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*Sirokov, A. P. On the problem of A-spaces. Sto dvadcat' pyat' let neevklidovoĭ geometrii Lobačevskogo, 1826–1951 [One hundred and twenty-five years of the non-Euclidean geometry of Lobačevskiĭ, 1826–1951], pp. 195–200. Gosudarstv. Izdat. Tehn.-Teor. Lit., Moscow-Leningrad, 1952. 7.60 rubles.

In an affine vector space of $2n$-dimensions we can associate two n-vectors $V^{i_1\cdots i_n}$ and $V_{i_1\cdots i_n}$ by means of the equations

$$n!V^{i_1\cdots i_n}=\epsilon^{i_1\cdots i_n\alpha_1\cdots\alpha_n}V_{\alpha_1\cdots\alpha_n},$$
$$n!V_{i_1\cdots i_n}=\epsilon_{\alpha_1\cdots\alpha_n i_1\cdots i_n}V^{\alpha_1\cdots\alpha_n}$$

when the ϵ are $2n$-vectors for which $\epsilon^{i_1\cdots i_{2n}}\epsilon_{k_1\cdots k_{2n}}=\delta^{i_1\cdots i_{2n}}_{k_1\cdots k_{2n}}$. In the projective P_{2n-1} of the pseudo-vectors two n-vectors V and W which have no vectors in common, determine two non-intersecting $(n-1)$-spaces and with it a point involution. To this involution belongs the tensor

$$g_i{}^j=V^{i\alpha_1\cdots\alpha_n}W_{j\alpha_1\cdots\alpha_n}-(-1)^nW^{i\alpha_1\cdots\alpha_n}V_{j\alpha_1\cdots\alpha_n}.$$

For $n=2$ we have the biaxial case of Norden [see the preceding review].

If we now take the A_{2n} with symmetrical affine connection $(\Gamma^\alpha{}_{\beta\gamma})$ in which two simple n-vectors V and W are given for which

$$\nabla_\alpha V^{\gamma_1\cdots\gamma_n}=\lambda_\alpha V^{\gamma_1\cdots\gamma_n},\quad \nabla_\alpha W^{\gamma_1\cdots\gamma_n}=\mu_\alpha W^{\gamma_1\cdots\gamma_n},$$

then the n-spaces of V and W form two families of n-dimensional surfaces. Then $\nabla_\alpha g_\beta{}^\gamma=0$. Two cases are now discussed; in the first case V and W are real, in the second V and W are complex conjugate. In the first case we can introduce a special set of n coordinate lines on the surfaces V and n coordinate lines on the surfaces W such that

(over)

new coordinates $x^1 \cdots x^n$, $x^{n+1} \cdots x^{2n}$

$$\partial_k g_{r,n+s} - \partial_r g_{k,n+s} = 0, \quad \partial_{n+k} g_{r,n+s} - \partial_{n+s} g_{r,n+k} = 0, \quad k, r = 1, \cdots, n,$$

is the condition that the tensor $s_{\alpha\beta}$ is covariant constant. Here the tensor $s_{\alpha\beta}$ has the property that $a_{\alpha\beta} = g_\alpha{}^\epsilon s_{\epsilon\beta}$ is antisymmetric, $a_{\alpha\epsilon} a_\beta{}^\epsilon = -s_{\alpha\beta}$.

These spaces are related to the stratified spaces of Raševskiĭ [see the paper reviewed below]. By taking $x^{i'} = x^i + x^{n+i}$, $x^{n+i'} = x^i - x^{n+i}$ we can associate to every point x^α (the $'$'s are omitted) and vector v^α a point X^k and vector V^k of an n-dimensional dual space

$$X^k = x^k + ex^{n+k}, \quad V^k = v^k + ev^{n+k}, \quad e^2 = +1,$$

with a connection $\Gamma^k_{ij} = \Gamma^k_{ij} + e\Gamma^{n+k}_{n+i,n+j}$. This space is a dual unitary space with metrical tensor

$$A_{k\bar{r}} = s_{kr} + ea_{kr} = s_{kr} + es_{n+k,r}$$

and no torsion.

In the second case, by a new choice of coordinates x^α and taking

$$X^k = x^k + ix^{n+k}, \quad V^k = v^k + iv^{n+k}, \quad {}'\Gamma^k_{ij} = \Gamma^k_{ij} - i\Gamma^{n+k}_{n+i,n+j}$$

we obtain a unitary space of Schouten with a hermitian metrical tensor $A_{k\bar{r}} = s_{kr} - ia_{kr}$. The tensor $s_{\alpha\beta}$ is covariant constant if

$$\partial_{[j}s_{m]k} - \partial_{[n+j}s_{n+m]k} = 0, \quad \partial_{[j}s_{n+m]k} + \partial_{[n+j}s_{m]k} = 0,$$

which points to the absence of torsion.

The relation between stratifiable and unitary spaces without torsion was pointed out by B. A. Rozenfeld [Trudy Sem. Vektor. Tenzor. Analizu 7, 260–275 (1949); these Rev. 12, 359]. It is stressed that the whole theory dates back in principle to the theory of A-spaces given by P. A. Širokov [Bull. Soc. Phys.-Math. Kazan (2) 25, 86–114 (1925)].

D. J. Struik (Cambridge, Mass.).

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to the original paper D J Struik (Cambridge Mass)

2/2

SHIROKOV, A P

USSR/ Mathematics - Affine transformations

Card 1/1 Pub. 22 - 11/62

Authors : Shirokov, A. P.

Title : About the characteristics of covariantly stable "affinors" (affine transformation "operators", Transl. note)

Periodical : Dok. AN SSSR 102/3, 461 - 464, May 21, 1955

Abstract : A proof is given that is is possible to construct such a holonomous system of coordinates in which the coordinates of a covariant stable "affinor" are constant (in particular, in which the matrix of an affinor, for the total space, reduces to the canonical Jordan form). However, only eigenvalued real numbers are considered. Diagrams.

Institution : V. I. Lenin-Ul'yanov State University, Kazan'

Presented by: Academician A. N. Kolmogorov, January 18, 1955

SHIROKOV, A.P. (Kazan')

Covariant constant tensors. Uch.zap.Kaz.un. 115 no.10:19 '55. (MLRA 10:5)

(Calculus of tensors)

SHIROKOV, A.P.

Projective interpretation of conformal-Euclidean symmetric spaces. Uch.zap.Kaz.un. 116 no.1:15-19 '55. (MLRA 10:5)

1.Kafedra geometrii.

(Spaces, Generalized)

SHIRKOV, P.P.

Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress (Cont.) Moscow, Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

Fedenko, A. S. (Minsk). On the Theory of Symmetrical Spaces. 174-175

There are 2 references, 1 of which is USSR, and the other French.

Shveykin, P. I. (Moscow). Affine-invariant Development. 175

Mention is made of Laptev. G. F.

Shirokov A. P. (Kazan'). Projective Interpretation of Conformly Euclidean Symmetrical Spaces. 176

Shulikovskiy, V. I. (Kazan'). On a Generalization of Killing Equations and Imprimitive n-Webs. 176

Mention is made of Yegorov, D. F.

Shcherbakov, R. N. (Ulan-Ude). Yegorov's Transformations in the Theory of Congruences. 176-177

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549520016-8"

BLIASHKE, V. [Blaschke, Wilhelm, 1885-]; SHIROKOV, A.P. [translator]; NORDEN, A.P., red.

[Introduction to differential geometry] Vvedeniye v differentsial'nuyu geometriyu. [Translated from the German] Perevod s nemetskogo A.P. Shirokova. Pod redaktsiyey A.P. Nordena. Moskva, Gos. izd-vo tekhn.-teoret. lit-ry, 1957. 223 p. (MIRA 12:1)
(Geometry, Differential)

SHIROKOV, A.P.

Some analogies of real realizations of unitary spaces. Uch. zap. Kaz. un. 117 no.9:25-30 '57. (MIRA 13:1)

1. Kazanskiy gosudarstvennyy universitet im. V.I. Ul'yanova-Lenina. Kafedra geometrii.

(Hilbert space)

SHIROKOV, A P

16(1) PHASE I BOOK EXPLOITATION SOV/2651

Shirokov, Petr Alekseyevich (Deceased), and Aleksandr Petrovich Shirokov

Affinnaya differentsial'naya geometriya (Affine Differential Geometry) Moscow, Fizmatgiz, 1959. 319 p. 6,000 copies printed.

Ed. (Title page): A.P. Norden; Ed. (Inside book): A.F. Lapko; Tech. Ed.: Ye. A. Yermakova.

PURPOSE: This book is intended for students, aspirants, and scientific workers specializing in geometry.

COVERAGE: The book was produced by A.P. Shirokov on the basis of notes left by P.A. Shirokov which contained a detailed outline of a course of lectures on affine differential geometry. For the most part, the book consists of a discussion of the differential geometry of a 3-dimensional centroaffine and equiaffine space. However, certain aspects of the theory of surfaces are also discussed and applied directly to the n-dimensional case. The method by which this is done is given in the Appendix written by A.P. Norden. Among the topics treated are: theory of plane curves, space curves, centroaffine theory of surfaces, theory of surfaces in the geometry of an equiaffine group,

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special classes of surfaces, ruled surfaces, relative theory of surfaces, and congruences of straight lines in equiaffine space. The author thanks A.P. Norden for help in producing the book. There are 401 references: 78 Russian, 184 German, 64 French, 54 English, 19 Italian, 1 Rumanian, and 1 Czech.

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